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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/679,850 | 10/06/2003 | John Patrick Kaufhold | 134903-1 | 3202 |

41838 7590 11/22/2006

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| EXAMINER | |
|---|---|
| PATEL, JAYESH A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2635 | |

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/679,850 | KAUFHOLD ET AL. | |
| | Examiner | Art Unit | |
| | Jayesh A. Patel | 2635 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-65* is/are rejected.

7)☒ Claim(s) *50* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/06/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

Examiner has considered the revised set of Claims submitted under Rule 1.126 for the purpose of examination.

For the purpose of examination regarding Claim 50, an assumption has been made to depend on Claim 42.

### *Claim Objections*

Claim 50 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. A Claim cannot be dependent on a same claim.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding Claim 24, the term Warping as claimed in the invention is not supported in the Specifications.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351

(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-7,9,11,14-17,21-32,34,36-48,50,52,55-58 and 61-65 are rejected under 35 U.S.C. 102(e) and (a) as being anticipated by Close et al. (US 6532380) hereafter Close.

**1.** Regarding claim 1, Close discloses, a method for locating a low contrast movable object coupled mechanically to a marker object in a series of image frames that include Images of the low contrast object and the marker object, said method comprising: locating the marker object in a first selected frame of the series of image frames; selecting a patch of the first selected frame as a template of the marker object; Utilizing the template of the marker object to estimate a location of the marker object in a second selected frame of the series of image

frames at (Col 6,Lines 40 –67). Registering the second selected frame with the first selected frame utilizing the estimated location of the marker object in the second selected frame and fusing the registered first selected frame and the second selected frame to hereby enhance the contrast of the low contrast movable object at (Col 6 Lines 48 –51 and Col 7, Lines 1-15).

**2.** Regarding claim 2, Close discloses, a method in accordance with claim 1, wherein said registering the second selected frame with the first selected frame comprises estimating a motion of the marker object between the first selected frame and the second selected frame at (Col 6, Lines 46-54 and 62-65).

**3.** Regarding Claim 3, Close discloses, a method in accordance with claim 1 further comprising removing a background from the first selected frame prior to selecting the template of the marker object in the first selected frame at (Col 6, Lines 60-62 and Col 7, Lines 1-7).

**4.** Regarding claim 4, Close discloses, a method in accordance with claim 1 further comprising removing a background from the second selected frame prior to utilizing the template of the marker object from the first selected frame to estimate the location of the marker object in the second selected frame at (Col 7, Lines 1-15).

**5.** Regarding Claim 5, Close discloses, a method in accordance with claim 1 wherein the second selected frame is a frame subsequent to the first selected frame, and said method further comprises utilizing the second selected frame to modify the template of the marker object at (Col 6, Lines 51-62).

**6.** Regarding Claim 6, Close discloses, a method in accordance with claim 5 wherein said utilizing the second selected frame to modify the template of the marker object comprises utilizing frames acquired both before and after the second selected frame to modify the template of the marker object at (Col 6, Lines 51-65).

**7.** Regarding Claim 7, Close discloses, a method in accordance with claim 1 wherein the first selected frame and the second selected frame comprise intensities of a first image and of a second image, respectively, stored in a computer memory at (Col 6, Lines 51-53).

**8.** Regarding Claim 9, Close discloses, a method in accordance with claim 1 further comprising removing a background from the first selected image and from the second selected image. (Col 7,Lines 1-15).

**9.** Regarding Claim 11, Close discloses, a method in accordance with claim 9 wherein said removing a background comprises utilizing a linear filter at (Col 6,

Lines 48-51). A low pass filter can obtain the blurred image and low pass filter is a linear filter (Col 5, Lines 37-40).

**10.** Regarding Claim 14, Close discloses, A method in accordance with claim 1 wherein said locating the marker object in a first selected frame comprises signaling a location of the marker object utilizing a mouse click signal by selecting a kernel (Fig 1,element 1). Toklu et al (US 6724915) hereafter Toklu also discloses the use of a computer mouse to select the marker object in the frame at (Col 6, Lines 23-31).

**11.** Regarding claim 15, Close discloses, a method in accordance with claim 1 wherein said locating the marker object in a first selected frame comprises utilizing a matched filter to locate a point at which the first selected frame produces a maximum response to the matched filter at (Col 6, Lines 42-54).

**12.** Regarding Claim 16,Close discloses, A method in accordance with claim 1 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame comprises correlating the template of the marker object with the second selected frame in either a spatial or a Fourier domain at (Col 6,Lines 48-51 and Col 8, Lines 19-23).

**13.** Regarding Claim 17, Close discloses, A method in accordance with claim 1 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame further comprises utilizing prior marker object locations to estimate the location of the marker object in the second selected frame (Col 6, Lines 40-65).

**14.** Regarding Claim 21, Close discloses, a method in accordance with claim 1 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame of the series of image frames comprises locating two marker objects and fitting a portion of a connecting member between the two marker objects with a spline at (Col 6,Lines 59-62). The steps S1-S4 are repeated with a new kernel shows that there are two marker selected.

**15.** Regarding claim 22, Close discloses, a method in accordance with claim 1 wherein said registering the second selected frame with the first selected frame utilizing the estimated location of the marker object in the second selected frame comprises regridding at (Col 6, Lines 48-51).

**16.** Regarding Claim 23, Close discloses, a method in accordance with claim 1 wherein said registering the second selected frame with the first selected frame

utilizing the estimated location of the marker object in the second selected frame comprises a translation and a rotation at (Col 6, Lines 40-51).

**17.** Regarding Claim 24, Close discloses about Warped mass subtraction for motion correction at (Col 2, Lines 58-63).

**18.** Regarding claim 25, Close discloses, a method in accordance with claim 1 wherein said fusing the registered first selected frame and the second selected frame to thereby enhance the contrast of the low contrast moveable object comprises pixel wise averaging at (Col 4, Lines 57-61).

**19.** Regarding Claim 26,see explanation of claim 1.

**20.** Regarding Claim 27, see explanation of claim 2.

**21.** Regarding Claim 28, see explanation of claim 3.

**22.** Regarding Claim 29, see explanation of claim 4.

**23.** Regarding Claim 30, see explanation of Claim 5.

**24.** Regarding Claim 31, Close discloses, a method in accordance with claim 30 wherein said utilizing the second selected frame to modify the template of the marker object comprises utilizing frames acquired both before and after the

second selected frame to modify the template of the marker object at (Col 6, Lines 51-65).

**25.** Regarding Claim 32, Close discloses, a method in accordance with claim 26 further comprising removing an anatomical background from the first selected image and from the second selected image at (Col 7,Lines 1-15).

**26.** Regarding Claim 34, Closes discloses, a method in accordance with claim 32 wherein said removing an anatomical background comprises utilizing a linear filter at (Col 6, Lines 48-51). A low pass filter can obtain the blurred image and low pass filter is a linear filter (Col 5, Lines 37-40).

**27.** Regarding Claim 36, Closes discloses, a method in accordance with claim 26 wherein said locating the marker object in a first selected frame comprises utilizing a matched filter to locate a point at which the first selected frame produces a maximum response to the matched filter at (Col 6, Lines 42-54).

**28.** Regarding Claim 37, Close discloses, a method in accordance with claim 26 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame comprises correlating the template of the marker object with the second selected frame in either a spatial or a Fourier domain at (Col 6,Lines 48-51 and Col 8, Lines 19-23).

**29.** Regarding Claim 38, Close discloses, a method in accordance with claim 26 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame of the series of image frames comprises locating two marker objects and fitting a portion of a connecting member between the two marker objects with a spline at (Col 6,Lines 40-62). The steps S1-S4 are repeated with a new kernel shows that there are two marker selected.

**30.** Regarding Claim 39, Close discloses, a method in accordance with claim 26 wherein said registering the second selected frame with the first selected frame utilizing the estimated location of the marker object in the second selected frame comprises a translation and a rotation at (Col 6, Lines 40-51).

**31.** Regarding Claim 40, Close discloses, a method in accordance with claim 26 wherein the second selected image is an x-ray image acquired later than the first selected image, and further comprising attempting to deploy the stent and utilizing the enhanced contrast of the stent to determine whether the stent has been successfully deployed at (Col 6, Lines 33-36).

**32.** Regarding Claim 41, Close discloses, a method in accordance with claim 40 performed **without** injection of a contrast- enhancing bolus after the deployment of the stent means that no additional bolus is introduced.

The specifications of the claimed invention disclose at Para 13 and para15 that the stent deployment can be assessed without introduction of **an additional** bolus of contrast agent. The specification also discloses injecting contrast agent as a reasonable practice in the stent deployment, however the administration of the contrast agent should be minimized (Para 6). This shows that there is already some amount of contrast agent present in the lumen. Close discloses angiographic images taken after stent expansion in the lumen filled with liquid (contrast agent) in abstract. Therefore it shows that the images are captured without additional injection in the lumen and whatever contrast agent is in the lumen is enough to acquire images. All of this is possible due to the image processing techniques used by Close.

**33.** Regarding Claim 42, see the explanation of Claim1. Close discloses an apparatus in (Figure 2).

**34.** Regarding Claim 43, see explanation of Claim 2.

**35.** Regarding Claim 44, see the explanation of Claim 3.

**36.** Regarding Claim 45,see explanation of Claim 4.

**37.** Regarding Claim 46, see explanation of Claim 5.

**38.** Regarding Claim 47, see explanation of Claim 6.

**39.** Regarding Claim 48 see explanation of Claim 7.

**40.** Regarding Claim 50, see the explanation of Claim 9 and (Fig 2) in Close.

**41.** Regarding Claim 52, see the explanation of Claim11 and (Fig 2) in Close.

**42.** Regarding Claim 55,see explanation of Claim 14 and (Fig 2) in Close.

**43.** Regarding Claim 56, see explanation of Claim 15 and (Fig 2) in Close.

**44.** Regarding Claim 57, see explanation of Claim 16 and (Fig 2) in Close.

**45.** Regarding Claim 58, see explanation of Claim 17 and (Fig 2) in Close.

**46.** Regarding Claim 61,see explanation of Claim 20 and (Fig 2) in Close.

**47.** Regarding Claim 62, see explanation of Claim 21 and (Fig 2) in Close.

**48.** Regarding Claim 63, see explanation of Claim 23 and (Fig 2) in Close.

**49.** Regarding Claim 64, see explanation of Claim 25 and (Fig 2) in Close.

**50.** Regarding Claim 65, Close discloses, an apparatus in accordance with claim 42 wherein said apparatus further comprises an x-ray imager, and said image frames comprise x-ray images at (Col 6, Lines 33-36).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8,10,12,13,18-20,33,35,49,51,53,54,59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable.

**51.** Regarding Claim 8 and 13, Close anticipates all the limitations of Claim 1. Close also discloses the background subtraction method for detecting low contrast objects. However Close does not disclose about the first selected frame

and the second selected frame comprise logarithm of intensities of a first image and of a second image, respectively, stored in a computer memory.

An article written by Quen-Zong Wu and Bor-Shenn Jeng discloses logarithmic pixel intensities for the purpose of image processing. The reference also discloses that logarithmic intensities are better than standard intensities for background subtraction of two image frames in the following sections. Abstract (Page1), Section 2. Logarithmic intensities for background subtraction (Page 3), Section 3.Experimental results (Page 6). By using the approach of background subtraction of logarithmic intensities of images the effects of illumination on moving object detection can be reduced and hence the sharpness and contrast can be improved as stated in Section 2. Therefore it would have been obvious for a person of ordinary skill in the art at the time the invention was made to use the logarithmic intensities of image frames for background subtraction as taught by Quen and Bor in the method for stent deployment as taught by Close.

**Regarding Claim 13,** Close anticipates all the limitations of claim 1. The method of claim 8 uses the Logarithms of intensities to achieve the background subtraction and imrove the contrast. The removal of background and the contrast can be improved by many image-processing techniques. Therefore, the image processing using a square root of frame intensities of the first selected frame and the second selected frame followed by removing a background from the first selected frame and from the second selected frame is an obvious manipulation of the image processing techniques used in the invention to achieve the results.

**52.** Regarding Claim 10, Close discloses, a method in accordance with claim 9 for background removal. However, Close does not disclose removing a background comprises utilizing a local median intensity to remove the background.

Kim et al. (US 5793883) (hereafter Kim) discloses utilizing Local Median intensity to remove the background at (Col 7, Lines 25-45). The method used by Kim is directed towards preserving detail while improving the contrast. Both Close and Kim are analogous art and from same field of endeavor. Therefore it would have been obvious for a person of ordinary skill in the art at the time the invention was made to have used the method of preserving the image detail while improving the contrast as taught by Kim in image guidance and coronary Stent deployment used by Close.

**53.** Regarding Claim 12, Close anticipates all the limitations of Claim 9 and 1. Close further discloses the background subtraction of the images to reduce the tracking errors. Close however does not disclose removing a background comprises interpolating the background of a coarser scale image in a Laplacian Pyramid.

The IEEE article Vol. Com-31, No.4, April 1983 by Peter J. Burt and Edward H. Adelson discloses an image processing technique using Laplacian pyramid image code. In the above method pixel-to-pixel correlations are first

removed by subtracting a low pass filtered copy of the image from the image itself (coarser scale image). The result is net data compression since the difference, or error, image has low variance and entropy and the low pass image may be represented at a reduced density. Further data compression is achieved by quantizing the difference image. These steps are repeated to compress the low pass image. Iteration of the process at appropriately expanded scales generates a pyramid structure. Therefore, it would have been obvious to a person of ordinary skill in the art; at the time the invention was made to use the laplacian pyramid code for background subtraction of images in the coronary stent deployment for the above reasons.

**54.** Regarding Claim 18, Close discloses, A method in accordance with claim 1 wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame of the series of image frames. Close does not disclose using a Kalman filter to estimate motion of the marker object.

Toklu et al. (US pat # 6724915) hereafter Toklu discloses using Kalman filter (Col 1, Lines 46-50). Both Close and Toklu have same field of endeavor, therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teachings (Kalman filter for motion tracking) as taught by Toklu to track the motion of Stent in image Guidance for coronary Stent deployment as taught by Close.

**55.** Regarding Claim 19, Close anticipates all the limitations of Claim 1.Toklu disclose the use of Kalman filter in motion tracking as explained in Claim 18. Toklu also discloses the use of statistics of mean free path of the marker object to determine how much modeled motion to utilize and how much data driven motion to utilize in the Kalman filter at (Col 7, Lines 1-44).

**56.** Regarding Claim 20, Close and Toklu discloses all the limitations of Claim 1 and claim 18 for the use of Kalman filter in motion tracking. Toklu also discloses, a method in accordance with claim 18 further comprising estimating a confidence interval on a location of the marker object at (Col 7, lines 40-59).

**57.** Regarding Claim 33, Close anticipates all the limitations of Claim 32 and 26.Close also disclose, a method in accordance with claim 32 for background removal. However, Close does not disclose removing a background comprises utilizing a local median intensity to remove the background.

Kim et al. (US 5793883) (hereafter Kim) discloses utilizing Local Median intensity to remove the background at (Col 7, Lines 25-45). The method used by Kim is directed towards preserving detail while improving the contrast. Both Close and Kim are analogous art and from same field of endeavor. Therefore it would have been obvious for a person of ordinary skill in the art at the time the invention was made to have used the method of preserving the image detail

while improving the contrast as taught by Kim in image guidance and coronary Stent deployment used by Close.

**58.** Regarding Claim 35 Close anticipates all the limitations of Claim 32 and 26. Close further discloses the background subtraction of the images to reduce the tracking errors. Close however does not disclose removing a background comprises interpolating the background of a coarser scale image in a Laplacian Pyramid.

The IEEE article Vol. Com-31, No.4, April 1983 by Peter J. Burt and Edward H. Adelson discloses an image processing technique using Laplacian pyramid image code. In the above method pixel-to-pixel correlations are first removed by subtracting a low pass filtered copy of the image from the image itself (coarser scale image). The result is net data compression since the difference, or error, image has low variance and entropy and the low pass image may be represented at a reduced density. Further data compression is achieved by quantizing the difference image. These steps are repeated to compress the low pass image. Iteration of the process at appropriately expanded scales generates a pyramid structure. Therefore, it would have been obvious to a person of ordinary skill in the art; at the time the invention was made to use the laplacian pyramid code for background subtraction of images in the coronary stent deployment for the above reasons.

**59.** Regarding Claim 51, see the explanation of Claim 10.

**60.** Regarding Claim 53, see the explanation of Claim 12.

**61.** Regarding Claim 54 and 49, Close anticipates all the limitations of Claim 42. Close also discloses the background subtraction method for detecting low contrast objects. However Close does not disclose about the first selected frame and the second selected frame comprise logarithm of intensities of a first image and of a second image, respectively, stored in a computer memory as claimed in the Claim 49.

An article written by Quen-Zong Wu and Bor-Shenn Jeng discloses logarithmic pixel intensities for the purpose of image processing. The reference also discloses that logarithmic intensities are better than standard intensities for background subtraction of two image frames in the following sections. Abstract (Page1) Section 2. Logarithmic intensities for background subtraction (Page 3), Section 3.Experimental results (Page 6). By using the approach of background subtraction of logarithmic intensities of images the effects of illumination on moving object detection can be reduced and hence the sharpness and contrast can be improved as stated in Section 2. Therefore it would have been obvious for a person of ordinary skill in the art at the time the invention was made to use the logarithmic intensities of image frames for background subtraction as taught by

Quen and Bor in the method for stent deployment as taught by Close.

**Regarding Claim 54,** Close anticipates all the limitations of claim 42. The method of claim 49 uses the Logarithms of intensities to achieve the background subtraction and improve the contrast. The removal of background and the contrast can be improved by many image-processing techniques. Therefore, the image processing using a square root of frame intensities of the first selected frame and the second selected frame followed by removing a background from the first selected frame and from the second selected frame is an obvious manipulation of the image processing techniques used in the invention to achieve the results.

**62.** Regarding Claim 59, Close discloses, a method in accordance with claim 42. Wherein said utilizing the template of the marker object to estimate a location of the marker object in a second selected frame of the series of image frames. Close does not disclose using a Kalman filter to estimate motion of the marker object.

Toklu et al. (US pat # 6724915) hereafter Toklu discloses using Kalman filter (Col 1, Lines 46-50). Both Close and Toklu have same field of endeavor, therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teachings (Kalman filter for motion tracking) as taught by Toklu to track the motion of Stent in image Guidance for coronary Stent deployment as taught by Close.

**63.** Regarding Claim 60, Close anticipates all the limitations of Claim 42.Toklu disclose the use of Kalman filter in motion tracking as explained in Claim 59. Toklu also discloses the use of statistics of mean free path of the marker object to determine how much modeled motion to utilize and how much data driven motion to utilize in the Kalman filter at (Col 7, Lines 1-44).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jayesh A. Patel whose telephone number is 571-270-1227. The examiner can normally be reached on M-F 7.00am to 4.30 pm (5-4-9). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin M. Lateef can be reached on 571-272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JP
11/16/06

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